

1 The opinion in support of the decision being entered today is *not* binding
precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TONY MARK, SEPPO OJANEN, JOHN PATRICK WONG,
and MICHAEL DAVID TREVORROW

Appeal 2006-2961
Application 09/745,390
Technology Center 2600

Decided: October 24, 2007

Before JEAN R. HOMERE, JAY P. LUCAS, and JOHN A. JEFFERY,
Administrative Patent Judges.

JEFFERY, *Administrative Patent Judge.*

DECISION ON APPEAL

1 Appellants appeal under 35 U.S.C. § 134 from the Examiner's
rejection of claims 1-3, 5-9, 11-15, 17, 19, and 20. We have jurisdiction
under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Appellants invented a wireless mobile station with a self-powered, detachable keypad module that is wirelessly coupled to the mobile station. In a preferred embodiment, the keypad module is powered by a solar cell. Such a capability enables the user to remotely place telephone calls.¹ Claim 1 is illustrative:

1. A mobile station, comprising:

a communication part that comprises a controller, an RF transceiver and an antenna; and

a self powered information entry part comprising a keypad or keyboard module that is detachable from said communication part and that is coupled, whether attached or detached, through a wireless link to said communication part for conveying keystroke information from said information entry part to said communication part.

The Examiner relies on the following prior art references to show unpatentability:

Little	US 4,740,431	Apr. 26, 1988
Halperin	US 6,115,616	Sep. 5, 2000
Park	US 6,687,518 B1	Feb. 3, 2004 (filed Feb. 14, 2000)

1. Claims 1-3, 7-9, and 13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Park and Halperin.
2. Claims 5, 6, 11, 12, 14, 15, 17, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Park, Halperin, and Little.

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Briefs and the Answer for their respective details. In this

¹ See generally Specification 2:7-20.

decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

OPINION

Representative Claim 1

We first consider the Examiner's rejection of claims 1-3, 7-9, and 13 under 35 U.S.C. § 103(a) as unpatentable over Park and Halperin. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Discussing the question of obviousness of a patent that claims a combination of known elements, the Court in *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385 (2007) explains:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida [v. AG Pro, Inc.]*, 425 U.S. 273, 189 USPQ 449 (1976)] and *Anderson's-Black Rock[, Inc. v. Pavement Salvage Co.]*, 396 U.S. 57, 163 USPQ 673 (1969)] are illustrative—a court

must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

KSR, 127 S. Ct. at 1740, 82 USPQ2d at 1396. If the claimed subject matter cannot be fairly characterized as involving the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement, a holding of obviousness can be based on a showing that “there was an apparent reason to combine the known elements in the fashion claimed.” *Id.*, 127 S. Ct. at 1740-41, 82 USPQ2d at 1396. Such a showing requires “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*, 127 S. Ct. at 1741, 82 USPQ2d at 1396 (quoting *In re Kahn*, 441 F.3d 977, 987, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)).

If the Examiner’s burden is met, the burden then shifts to the Appellants to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

Regarding representative claim 1, the Examiner's rejection essentially finds that Park discloses a mobile station with every claimed feature except for a self-powered information entry part. The Examiner cites Halperin as teaching this feature and concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a keypad that

uses a lithium thin film battery to minimize space occupied by the power source (Answer 3-4).

Appellants argue that Halperin's battery-powered detachable keypad module is not *self-powered* in accordance with the term's ordinary and customary meaning and in light of the specification. According to Appellants, "self-powered" means "powered by itself." Appellants emphasize that a *self-powered* device, unlike a device powered solely by batteries, is capable of providing its own source of power (Br. 9-11; Reply Br. 1-3).

Appellants add that the doctrine of claim differentiation supports their position regarding the meaning of "self-powered." According to Appellants, if self-powered modes of operation encompassed solely battery-powered modes then claim 6 (reciting additionally powering the information entry part by at least one battery) would be redundant. Appellants further contend that if they wanted to deviate from the ordinary and customary meaning of "self-powered" to encompass solely battery-powered modes of operation, claim 6 would have more logically depended from claim 1, not from claim 5 (Br. 11-12; Reply Br. 3-4).

The Examiner notes that the scope and breadth of the term "self-powered" does not preclude battery power. According to the Examiner, Halperin's keypad is "self-powered" since it can independently function when detached from the portable unit and is powered via its own included battery without the need for any hardwired connection to an external power source (Answer 8).

We will sustain the Examiner's rejection of representative claim 1. In our view, the scope and breadth of the term "self-powered" does not

preclude devices that are powered solely by batteries, such as the battery-powered information entry part of Halperin. Moreover, we agree with the Examiner that this teaching would have been reasonably combinable with detachable keyboard of Park.

Park discloses a portable communications terminal with a main housing 10 and a foldable, detachable keyboard 30 that communicate with each other wirelessly (Park, col. 3, ll. 39-46, 57-67; col. 4, ll. 32-52; Fig. 3). Halperin discloses a handset 10 with a detachable keypad 16 that wirelessly communicates with the handset via RF transmitter E1. The keypad is powered by battery B1 that is preferably a lithium, thin film battery (Halperin, col. 2, ll. 35-42; 61-63; col. 4, ll. 13-18; Fig. 1).

That Halperin's keypad uses a battery to generate power within the keypad hardly means that the keypad is not "self-powered" giving the term its broadest reasonable interpretation.² As the Examiner indicates, a battery-powered device is capable of operating independently of any other power source. Notwithstanding the fact that a battery is used, electric power is nonetheless generated *within the device itself*. That is, the battery is an internal component of the device that generates power to operate the device.³

² In fact, wireless keyboards with internal batteries have been touted as "self-powered" keyboards. See, e.g., *Palm Wireless Keyboard for Treo 650, 700p, 600*, at <http://software.palminfocenter.com/productAccessories.asp?id=4311> (wireless keyboard featured as "self-powered" with an internal battery lasting up to four months).

³ Even other forms of self-powered devices (e.g., devices generating power via solar or mechanical means) are dependent on an "outside agency" to generate the power (e.g., the sun, turning a crank, shaking the device, etc.) – a fact Appellants readily acknowledge (Reply Br. 3). Similarly, self-powered devices using batteries likewise depend on an "outside agency" (i.e., the battery) for power generation. That batteries have a finite life is not

Such internal generation of electric power within the keypad in Halperin therefore fully meets a “self-powered” keypad as claimed.

We also find Appellants’ claim differentiation argument unavailing. Merely because the claims lack a dependent claim that further limits “self-powered” to solely battery operation hardly precludes this interpretation – an interpretation that we find reasonable for the reasons previously indicated. While claim 6 calls for *additionally* powering the self-powered information entry part by at least one battery that is chargeable by the solar cell, such a limitation hardly precludes a device being “self-powered” by another battery.

For the foregoing reasons, we will sustain the Examiner’s rejection of representative claim 1 and claims 2, 3, 7-9, and 13 which fall with claim 1.

Representative Claim 15

Regarding representative claim 15, the Examiner notes that the prior art does not disclose a solar cell, but cites Little as teaching integrating a solar cell with a lithium thin film battery. The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide such a thin film solar cell in the prior art device – a device that uses a lithium thin film battery (Answer 5).

Appellants argue that it is allegedly improper to combine Little with Park and Halperin since (1) Park says nothing about how an information entry part may be powered; (2) Little does not teach how to modify an dispositive in determining whether a device using batteries is “self-powered” as Appellants seem to suggest. Like battery-powered devices, other self-powered devices (e.g., utilizing solar or mechanical power-generating means) generate power with a finite duration and thus rely on an “outside agency” to resume operation.

information entry part with respect to how it is powered; and (3) Halperin teaches away from the combination since Halperin teaches a passively-powered alternative that does not use a battery (Br. 13-14; Reply Br. 4-5).

We will sustain the Examiner's rejection of representative claim 15. Little discloses an integrated thin film solar cell 16 and battery 26 with lithium anode deposited on a substrate. As Little indicates, such integrated power generation and storage modules have several advantages including, among other things, reducing size and weight (Little, col. 1, ll. 50-60; col. 3, ll. 35-50; col. 4, ll. 6-47; Fig. 1). Significantly, Little teaches that such devices can be used in radio transceivers (Little, col. 2, l. 50) – communications devices that otherwise were unable to use photovoltaic cells and separate storage devices (Little, col. 1, ll. 23-27).

In view of (1) the clear advantages of using solar cells (i.e., generating electric power from sunlight) and integrating such solar cells with storage devices for communications devices as suggested by Little, and (2) the fact that Halperin uses a *lithium* thin film battery -- the same material used in Little's thin film battery -- we see no reason why the skilled artisan would not have provided a integrated solar cell/battery device in lieu of the thin film battery of Halperin. That Halperin may disclose a passively-powered alternative embodiment⁴ hardly forecloses combining Little as indicated by the Examiner.

⁴ We note in passing that Halperin's passively-powered keyboard embodiment utilizes RFID tags also fully meets a "self-powered" information entry part as claimed (Halperin, col. 3, l. 25 – col. 4, l. 12; Fig. 2). In that embodiment, a portion of the power of the incident wave is stored by the tag's capacitor thus activating the tag (Halperin, col. 3, ll. 34-38). Thus, when the capacitor is charged, the keyboard is effectively "self-powered" notwithstanding the lack of internal power sources.

For the foregoing reasons, we will sustain the Examiner's rejection of representative claim 15 and claims 5, 6, 11, 12, 14, 17, 19, and 20 which fall with claim 15.

DECISION

We have sustained the Examiner's rejections with respect to all claims on appeal. Therefore, the Examiner's decision rejecting claims 1-3, 5-9, 11-15, 17, 19, and 20 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

KIS

HARRINGTON & SMITH, L.L.P.
4 RESEARCH DRIVE
SHELTON, CT 06484-6212